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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PETER ALLEN HUBOI

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Appeal 2011-001837  
Application 09/459,380  
Technology Center 2600

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Before ERIC S. FRAHM, KRISTEN L. DROESCH, and ERIC B. CHEN,  
*Administrative Patent Judges.*

CHEN, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the final rejection of claims 30-46, 49, 50, 53 and 54.<sup>1</sup> Claims 4, 13, 20 and 26 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Appellant's invention relates to methods and systems for analyzing voice information to determine if specific words or phrases are used or if the voice information exhibits a particular pattern of speech. (Spec. Abstract.) If specified words or phrases are determined to have been used, a specific action is taken. (Spec. Abstract.)

Claim 30 is exemplary, with disputed limitations in *italics*:

30. A method for processing a voice message, comprising:  
storing one or more actions;  
receiving a voice message;

analyzing the voice message to determine if the voice message exhibits a predetermined pattern of speech, *the predetermined pattern of speech representing at least one of a tone of speech in the voice message and a frequency of the speech in the voice message*; and

performing one or more of the stored actions, if the predetermined pattern of speech is found to occur in the voice message.

Claims 30, 32, 35-37, 39-41, 43, 44, 46, 49 and 50 stand rejected under 35 U.S.C. § 103(a) as being obvious over McDonough (U.S. Patent No. 5,625,748) and Furui (Sadaoki Furui, DIGITAL SPEECH PROCESSING, SYNTHESIS, AND RECOGNITION 225-289 (Marcel Dekker, Inc., 1989)).<sup>2</sup>

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<sup>1</sup> The rejections of claims 1-3, 5-12, 14-19, 21-25, 27-29, 47, 48, 51 and 52 under 35 U.S.C. § 103(a) have been withdrawn by the Examiner. (Ans. 2.)

<sup>2</sup> Both Appellant and the Examiner have erroneously included Epstein in the statement of the rejection. (Br. 20, 51; Ans. 4.)

Claims 31, 33, 34, 38, 42, 45, 53 and 54 stand rejected under 35 U.S.C. § 103(a) as being obvious over McDonough, Furui and Epstein (U.S. Patent No. 6,327,343).

We are not persuaded by Appellant's arguments (Br. 51-53) that the combination of McDonough and Furui would not have rendered obvious independent claim 30, including the disputed limitation "the predetermined pattern of speech representing at least one of a tone of speech in the voice message and a frequency of the speech in the voice message."

The Examiner acknowledged that McDonough does not teach this disputed claim limitation (Ans. 5) and cited Furui for the disclosure of automatic speech recognition methods with "a lattice taking account of allophones, coarticulation, stress, and syllables" corresponding to the claimed "tone of speech" (Ans. 5-6; Furui, p. 276, ll. 1-15). The Examiner also cited Furui for the disclosure of automatic speech recognition methods with "Markov models for recognition of input speech converted into spectral feature vectors by DFT [discrete Fourier transform]" corresponding to the claimed "frequency of the speech." (Ans. 6; Furui, p. 278, ll. 3-9.) The Examiner concluded that independent claim 30 would have been obvious over the combination of McDonough and Furui. (Ans. 6.)

Appellant argues that "the Examiner's interpretation is unreasonably broad and completely ignores the Specification" (Br. 51) because "the terms 'tone of speech' and 'frequency of speech' in Claim 30 means non-linguistic characteristics, such as high pitched, loud, breathless, or rapid speech" (Br. 52). However, the scope of the claim is not so narrow. The portions of the Specification cited by Appellant do not provide adequate support for requiring a "tone of speech" and "frequency of speech" to mean non-

linguistic characteristics. Appellant's Specification describes that in one embodiment, "rather than analyzing the voice information for specific words or phrases, the voice information is analyzed looking for particular speech characteristics, such as frequency and tone." (Spec. 9:29-31; *see also* Spec. 7:7-8.) The Specification further states that "[f]or example, a prospective customer's speech may be analyzed to determine if they are angry by analyzing their speech for characteristics indicative of a person being angry." (Spec. 10:1-3.) As another example for an urgent call, "a caller may speak rapidly, be out of breath, or be speaking in a high pitch." (Spec. 7:9-10.) In other words, the Specification discloses that analyzing a person's speech for characteristics of anger or urgency are only examples of "frequency and tone" of speech.

The broadest reasonable meaning of "tone" includes the relevant plain meaning which is "any sound considered with reference to its quality, pitch, strength, source, etc." *Random House Dictionary of the English Language* 1994 (2nd ed. 1987). Thus, we agree with the Examiner (Ans. 6) that Furui teaches the claimed "tone of speech" because Furui describes analysis of speech on the basis of allophones, coarticulation, stress and syllables (p. 276, ll. 11-15).

The broadest reasonable meaning of "frequency" includes the relevant plain meaning which is "rate of occurrence." *Random House Dictionary of the English Language* 766 (2nd ed. 1987). We agree with the Examiner (Ans. 6) that Furui teaches the "frequency of speech" limitation based on Furui's description of using Markov models for recognition of input speech converted into spectral feature vectors by DFT. One with ordinary skill in the art would understand that the conversion of input speech into spectral

feature vectors (or spectral analysis) is based on the sound wave frequencies of the input speech (i.e., the rate of occurrence of the sound waves). Furthermore, McDonough also meets the limitation because McDonough describes a speech event frequency detector 12 (col. 5, ll. 45-46) such that “[t]he event frequencies are preferably estimates of the frequency of occurrence of the potential speech events in the spoken data” (col. 5, ll. 54-56; col. 7, ll. 26-28).

Therefore, we agree with the Examiner that the combination of McDonough and Furui would have rendered obvious independent claim 30, including the disputed limitation “the predetermined pattern of speech representing at least one of a tone of speech in the voice message and a frequency of the speech in the voice message.”

Accordingly, we sustain the rejection of independent claim 30 under 35 U.S.C. § 103(a). Claims 35 and 36 depend from independent claim 30 and Appellant has not presented any substantive arguments with respect to these claims. Therefore, we sustain the rejection of these claims under 35 U.S.C. § 103(a) for the reasons discussed with respect to independent claim 30.

Independent claims 37, 41, 44, 49 and 50 recite limitations similar to those discussed with respect to independent claim 30 and Appellant has not presented any substantive arguments with respect to these claims. We sustain the rejection of claims 37, 41, 44, 49 and 50, as well as claims 40, 43 and 46, which depend from claims 37, 41 and 44, for the reasons discussed with respect to claim 30.

We are not persuaded by Appellant’s arguments (Br. 54) that the combination of McDonough and Furui would not have rendered obvious

dependent claims 32 and 39, including the disputed limitations “the user specifying one or more actions” and “storing the user specified one or more actions.”

The Examiner found that the system of McDonough that queries a user as to the correctness of a proposed action corresponds to the limitation of a “user specifying one or more actions.” (Ans. 7; McDonough, col. 2, ll. 19-24.) The Examiner also found that the system of McDonough which adds new words to its vocabulary corresponds to the limitation “storing the user specified one or more actions.” (Ans. 7; McDonough, col. 2, ll. 12-15.) We agree with the Examiner.

McDonough describes “speech recognition systems, and more particularly . . . an improved topic discriminator of a spoken message.” (Col. 1, ll. 7-9.) In the “Background of the Invention” section, McDonough describes “[a] topic discriminator for spoken data . . . used to classify the data into one of a set of known topics” (col. 1, ll. 12-13) for example, a system for “routing of messages to one of several departments of a retail store” (col. 2, ll. 3-4). McDonough also teaches that “an unknown word can be identified [by the system] in an incoming message” and that “[t]he new word is then added to the vocabulary.” (Col. 2, ll. 12-14.) Furthermore, “[t]his learning process . . . requires that the system be able to query the user as to the correctness of the action it proposes (e.g., ‘Would you like to be connected with the furniture department?’), and subsequently re-learn those messages which produce undesirable recommendations.” (Col. 2, ll. 19-24.) In other words, McDonough teaches “the user specifying one or more actions” and “storing the user specified one or more actions.”

Appellant argues that McDonough does not teach the disputed limitations because “McDonough describes a system in which ‘it is assumed that all possible actions are known,’ while ‘the system has the capacity to interactively learn new vocabulary words’ that a user may associate with a desired action” and thus, “all possible actions are already specified and stored in the system, new vocabulary words can be learned, and a user can associate the new words with an existing action.” (Br. 54.) However, the arguments presented do not provide an adequate explanation as to why McDonough does not teach the disputed limitations.

Therefore, we agree with the Examiner that the combination of McDonough and Furui would have rendered obvious dependent claims 32 and 39, including the disputed limitations “the user specifying one or more actions” and “storing the user specified one or more actions.”

Accordingly, we sustain the rejection of dependent claims 32 and 39 under 35 U.S.C. § 103(a).

We are not persuaded by Appellant’s arguments (Br. 45-46) that the combination of McDonough, Furui and Epstein would not have rendered obvious dependent claim 33, including the disputed limitation “wherein the stored actions include marking the message as urgent.”

The Examiner acknowledged that McDonough does not teach this disputed claim limitation (Ans. 10) and cited Epstein for the disclosure of a system 10 including an audio indexer/prioritizer module 34 for retrieving urgent messages (Ans. 11, 17; Epstein, col. 13, ll. 57-62). The Examiner concluded that dependent claim 33 would have been obvious over the combination of McDonough, Furui and Epstein. (Ans. 11.) We agree with the Examiner.



As discussed previously, McDonough describes “speech recognition systems, and more particularly . . . an improved topic discriminator of a spoken message.” (Col. 1, ll. 7-9.) Epstein describes “[a] programmable automatic call and data transfer processing system which automatically processes incoming telephone calls, facsimiles and e-mails based on the identity of the caller or author, the subject matter of the message or request, and/or the time of day.” (Abstract.) In one embodiment, a system 10 that automatically answers an incoming telephone call (col. 3, ll. 34-35) includes an audio indexer/prioritizer module 34 programmed to index messages and conversations, for example, to “retrieve all urgent messages” (col. 13, ll. 57-62).

A person of ordinary skill in the art at the time of the invention would have recognized that incorporating the known audio indexer/prioritizer module 34 of Epstein with the speech recognition systems of McDonough would improve McDonough by providing the ability to retrieve urgent messages. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007). Thus, we agree with the Examiner (Ans. 11) that modifying McDonough to include the audio indexer/prioritizer module 34 of Epstein would have been obvious.

Appellant argues that “[n]owhere in the description of handling a voice call does Epstein describe storing urgency information relating to the call, as is described for facsimile and e-mail messages.” (Br. 46.) Contrary to Appellant’s argument and as discussed previously, Epstein describes a programmable automatic call and data transfer processing system (Abstract) that includes an audio indexer/prioritizer module 34 programmed to retrieve all urgent messages (col. 13, ll. 57-62).

Therefore, we agree with the Examiner that the combination of McDonough, Furui and Epstein would have rendered obvious dependent claim 33, including the disputed limitation “wherein the stored actions include marking the message as urgent.”

Accordingly, we sustain the rejection of dependent claim 33 under 35 U.S.C. § 103(a).

We are not persuaded by Appellant’s arguments (Br. 47) that the combination of McDonough, Furui and Epstein would not have rendered obvious dependent claim 34, including the disputed limitation “wherein the stored actions include calling a pager.”

The Examiner acknowledged that McDonough does not teach this disputed claim limitation and cited Epstein for the disclosure of a system 10 that transforms an incoming telephone call into a page. (Ans. 11; Epstein, col. 4, ll. 1-3.) The Examiner concluded that dependent claim 34 would have been obvious over the combination of McDonough, Furui and Epstein. (Ans. 11-12.) We agree with the Examiner.

As discussed previously, McDonough describes “speech recognition systems, and more particularly . . . an improved topic discriminator of a spoken message.” (Col. 1, ll. 7-9.) Epstein describes a system 10 that automatically answers an incoming telephone call (col. 3, ll. 34-35) such that the system 10 is “programmed to transform an incoming telephone call or messages into a page which can then be transmitted to the user’s pager” (col. 4, ll. 1-3) when the user is not at home or away from the office (col. 14, ll. 46-49).

A person of ordinary skill in the art at the time of the invention would have recognized that incorporating the known method of transferring an

incoming call into a page, as taught by Epstein, with the speech recognition systems of McDonough would improve McDonough by providing the ability to transmit a message to a user who is not at home or out of the office. *See KSR*, 550 U.S. at 417. Thus, we agree with the Examiner (Ans. 11-12) that modifying McDonough to include Epstein's method of transferring an incoming call into a page would have been obvious.

Therefore, we agree with the Examiner that the combination of McDonough, Furui and Epstein would have rendered obvious dependent claim 34, including the disputed limitation "wherein the stored actions include calling a pager."

Accordingly, we sustain the rejection of dependent claim 34 under 35 U.S.C. § 103(a).

Although Appellant nominally argues the rejection of claims 31, 38, 42, 45, 53 and 54 separately (Br. 44-45, 48-50), the arguments presented do not point out with particularity or explain why the limitations of the claims are separately patentable. Accordingly, we sustain the rejection of claims 31, 38, 42, 45, 53 and 54 under 35 U.S.C. § 103(a).

#### DECISION

The decision to reject claims 30-46, 49, 50, 53 and 54 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

#### AFFIRMED

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